

I claim:

1. A composition for disinfecting a contact lens comprising an effective disinfecting amount of hydrogen peroxide and a surfactant comprising a low-foaming or non-foaming copolymer of hydrophobe and hydrophile blocks of the
5 structure:



or



wherein x and y are integers reflecting the respective hydrophile and hydrophobe
10 blocks of said copolymer; and the hydrophile component of the block copolymer
constitutes less than 50 weight percent of the block copolymer.

15 2. A composition for disinfecting a contact lens as claimed in Claim 1,
wherein said hydrophile is polyoxyethylene.

3. A composition for disinfecting a contact lens as claimed in Claim 2,
15 wherein said hydrophobe is polyoxypropylene.

4. A composition for disinfecting a contact lens as claimed in Claim 3,
wherein said block copolymer has a Ross-Miles foam height (ASTM designation
D-1173-53; 0.1%, at 50°C) of less than 1 mm.

5. A composition for disinfecting a contact lens as claimed in Claim 4,
20 wherein said block copolymer has a Ross-Miles foam height (ASTM designation
D-1173-53; 0.1%, at 50°C) of about 0 mm.

6. A composition for disinfecting a contact lens as claimed in Claim 1,
wherein the hydrophile constitutes from about 10 to 50 weight percent of the
block copolymer.

25 7. A composition for disinfecting a contact lens as claimed in Claim 6,
wherein the hydrophile constitutes about 40 weight percent of the block
copolymer.

8. A composition for disinfecting a contact lens as claimed in Claim 1,
wherein the molecular weight of the hydrophobe block is from about 1200 and
30 about 3100.

9. A composition for disinfecting a contact lens as claimed in Claim 8, wherein the molecular weight of the hydrophobe is from about 1000 and about 2500.

10. A composition for disinfecting a contact lens as claimed in Claim 9, 5 wherein the molecular weight of the hydrophobe is approximately 1700.

11. A composition for disinfecting a contact lens as claimed in Claim 1, wherein said surfactant is present in the range of about 0.005% to about 0.8%.

12. A composition for disinfecting a contact lens as claimed in Claim 11, wherein said surfactant is present in the range of about 0.01% to about 0.5% 10

13. A composition for disinfecting a contact lens as claimed in Claim 12, wherein said surfactant is less than 0.1% by weight of the solution.

14. A composition for disinfecting a contact lens comprising an aqueous solution of an effective disinfecting amount of hydrogen peroxide and a polyoxyethylene/polyoxypropylene block copolymer having the structure: 15

$$\text{HO} - \left(\text{CH}_2\text{CH}_2\text{O} \right)_x \left(\text{CH}_2\text{CH}_2\text{O} \right)_y \left(\text{CH}_2\text{CH}_2\text{O} \right)_x \text{H}$$

wherein x and y are integers reflecting the respective polyethylene oxide and polypropylene oxide blocks of said copolymer; and the polyoxyethylene component of the block copolymer constitutes less than 50 weight percent of the block copolymer; 20

wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of less than 1 mm.

15. A composition for disinfecting a contact lens as claimed in Claim 14, wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of about 0 mm. 25

16. A composition for disinfecting a contact lens as claimed in Claim 15, wherein the polyoxyethylene component of the block copolymer constitutes about 40 weight percent of the block copolymer.

17. A composition for disinfecting a contact lens as claimed in Claim 14, 30 wherein the molecular weight of the polyoxypropylene block is from about 1200 and about 3100.

18. A composition for disinfecting a contact lens as claimed in Claim 17, wherein the molecular weight of the polyoxypropylene block is approximately 1700.

19. A composition for disinfecting a contact lens as claimed in Claim 14, 5 wherein said surfactant is present in the range of about 0.005% to about 0.8%.

20. A composition for disinfecting a contact lens as claimed in Claim 21, wherein said surfactant is less than 0.1% by weight of the solution.

21. A composition for disinfecting a contact lens as claimed in Claim 14, 10 wherein hydrogen peroxide is present in a concentration of about 0.5% to about 6% by weight.

22. A composition for disinfecting a contact lens as claimed in Claim 21, wherein hydrogen peroxide is present in a concentration of 2% to 6% by weight.

23. A composition for disinfecting a contact lens as claimed in Claim 21, further comprising a hydrogen peroxide stabilizer; wherein said stabilizer 15 comprises a diphosphonic acid alkanol.

24. A composition for disinfecting a contact lens as claimed in Claim 23, wherein said stabilizer comprises diethylene triamine penta-(methylenephosphonic acid) or a ocularly compatible salt thereof; wherein said stabilizer is about 0.006 and about 0.02% by weight of the composition.

25. A composition for disinfecting a contact lens as claimed in Claim 22, further comprising a buffer to maintain said composition at a pH of about 4 to about 9.

26. A composition for disinfecting a contact lens as claimed in Claim 25, wherein said buffer is selected from the group consisting of basic acetates, 25 phosphates, borates, nitrates, sulfates, tartrates, lactates, carbonates, bicarbonates, and mixtures thereof; wherein said buffer is present in the range of 0.001% to 2%.

27. A composition for disinfecting a contact lens as claimed in Claim 26, wherein said phosphate buffer is selected from the group consisting of 30 monobasic phosphates, dibasic phosphates, and mixtures thereof; wherein said phosphate buffer is present in the range of from about 0.05% to about 0.30%.

28. A composition for disinfecting a contact lens as claimed in Claim 27, further comprising a tonicity component to provide the solution with a tonicity of from 50 to 400 mosmol/kg; wherein said tonicity component is selected from the group consisting of water soluble salts compatible with ocular tissue.

5 29. A composition for disinfecting a contact lens comprising an aqueous solution of:

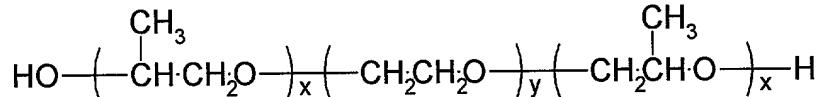
hydrogen peroxide;

a buffer compatible with ocular tissue;

a hydrogen peroxide stabilizer comprising a diphosphonic acid alkanol;

10 a tonicity component; and

polyoxyethylene/polyoxypropylene block copolymer having the structure:



wherein x and y are integers reflecting the respective polyethylene oxide and polypropylene oxide blocks of said copolymer.

15 30. A composition for disinfecting a contact lens as claimed in Claim 29, wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of about 0 mm.

31. A composition for disinfecting a contact lens as claimed in Claim 30, wherein the polyoxyethylene component of the block copolymer constitutes less 20 than 50 weight percent of the block copolymer.

32. A composition for disinfecting a contact lens as claimed in Claim 30, wherein said stabilizer comprises diethylene triamine penta-(methylenephosphonic acid) or a ocularly compatible salt thereof and is present in the composition in an amount between about 0.001 and about 0.03% by 25 weight of the solution.

33. A composition for disinfecting a contact lens as claimed in Claim 30, wherein said buffer is selected from the group consisting of sodium dibasic phosphate (Na_2HPO_4), sodium monobasic phosphate (NaH_2PO_4), potassium monobasic phosphate (KH_2PO_4), and mixtures thereof; and said phosphate 30 buffer is present in the range of from about 0.05% to about 0.30%.

34. A composition for disinfecting a contact lens as claimed in Claim 30, wherein said tonicity component is sodium chloride and provides said solution with a tonicity of from 250 to 350 mosmol/kg.

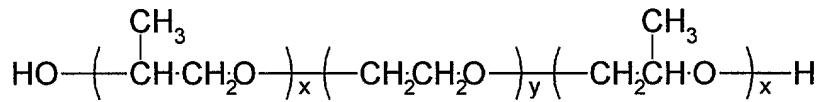
35. A composition for disinfecting a contact lens as claimed in Claim 29, 5 comprising from 2 to 6% hydrogen peroxide; and between 0.01% and 0.10% polyoxyethylene/polyoxypropylene block copolymer;

wherein the polyoxyethylene component of the block copolymer constitutes about 40 weight percent of the block copolymer; and

10 wherein the molecular weight of the polyoxypropylene block of the copolymer is approximately 1700.

36. A method of disinfecting a contact lens comprising the steps of:

(a) contacting a contact lens with an aqueous solution of an effective disinfecting amount of hydrogen peroxide and a polyoxyethylene/polyoxypropylene block copolymer having the structure:



wherein x and y are integers reflecting the respective polyethylene oxide and polypropylene oxide blocks of said copolymer; and the polyoxyethylene component of the block copolymer constitutes less than 50 weight percent of the block copolymer;

20 wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of less than 1 mm; and

(b) neutralizing said hydrogen peroxide by catalytic decomposition.

37. A method of disinfecting a contact lens as claimed in Claim 36, wherein said step of neutralizing comprises contacting said solution with a metal catalyst.

25 38. A method of disinfecting a contact lens as claimed in Claim 37, wherein the lens is ready for insertion into the eye without a step of manually rubbing the lens.